

THIS REPORT CONTAINS ASSESSMENTS OF COMMODITY AND TRADE ISSUES MADE BY USDA STAFF AND NOT NECESSARILY STATEMENTS OF OFFICIAL U.S. GOVERNMENT POLICY

Required Report - public distribution

Date: 10/6/2017

GAIN Report Number: NL7031

Netherlands

Agricultural Biotechnology Annual

Annual 2017

Approved By:Susan Phillips **Prepared By:**Bob Flach

Report Highlights:

This report assesses the agricultural biotechnology sector in the Netherlands, and covers related production, trade and policies. It includes topics related to genetic engineering and innovative plant and animal biotechnologies. The main new development is the Dutch proposal to regulate plants derived from innovative biotechnology and the decision to sign the EU Soya Declaration.

SECTION I: EXECUTIVE SUMMARY

The Dutch government and agricultural sector have a pragmatic approach towards the import of genetically engineered (GE) agricultural products. However, crop trials and commercial cultivation of biotech crops are effectively prevented by cumbersome regulations and the threat of protests from environmental groups.

Innovative plant biotechnology is a subject which has the strong attention of the Dutch Government based on its importance for the Dutch plant breeding sector, which ranks as the top exporter in the world. On September 7, 2017, the Dutch Government presented a discussion paper to the other EU Member States representatives in Brussels on how products of innovative biotechnology or as commonly called in the EU, new plant breeding techniques (NBTs) could be regulated. One of the most important guidelines of the Dutch proposal is that science-based criteria should be developed which determine if the crop variety falls under GE legislation, Directive 2001/18/EC, irrespective of which technique has been used. It therefore contains a more product-based approach than currently is laid down in the EU Directive.

A concern of the Dutch government is that genetic engineering and patenting is creating a monopoly and a misbalance between breeder's rights and farmer's rights. As part of their Chair of the EU Council during the first half of 2016, the Dutch Government organized a symposium called "Finding the Balance." Resultant form this event, the European Commission published an official explanation stating that products derived from conventional breeding cannot be patented.

The livestock sector does not include any GE animals nor do Dutch agricultural research institutes have them for research purposes. The Ministry of Economic Affairs, which covers agriculture has stated that the Dutch Government does not oppose the European Commission proposal to ban food derived from cloned animals, but only if the regulation is practical and in line with international obligations.

SECTION II: PLANT AND ANIMAL BIOTECHNOLOGY

CHAPTER I: PLANT BIOTECHNOLOGY	3
PART A: PRODUCTION AND TRADE	3
PART B: POLICY	5
PART C: MARKETING	9
CHAPTER II: ANIMAL BIOTECHNOLOGY	10
PART D: PRODUCTION AND TRADE	10
PART E: POLICY	11
PART F: MARKETING	12

CHAPTER I: PLANT BIOTECHNOLOGY

PART A: PRODUCTION AND TRADE

a) Product Development

The Netherlands has one of the world's leading plant propagation sectors. Given the cumbersome regulations for developing and approving genetically engineered (GE) crops, Dutch plant breeding companies have focused on innovative biotechnologies. For example, Wageningen University conducts research on cis-genic potatoes and apples. In the Netherlands, there are no GE crops under development that will be on the market in the next five years.

The <u>database</u> (in Dutch) of the National Institute for Public Health and the Environment (RIVM) reports that in 2017 only one license was requested, namely for the injection of a viral vector carrying a human transgene.

b) Commercial Production

In the Netherlands, there are no commercial plantings of GE crops, nor is it expected that any GE crops will be commercially planted in the next five years. This assumption is based on limited producer interest, cumbersome regulations for approval and coexistence, and the threat of protests.

Dutch position towards legislation for national "opt-out" of cultivation:

In the European Council meeting of June 12, 2014, the Dutch Government voted in favor of the Greek proposal, which allows Member States to ban EU-approved GE crop varieties for cultivation on their territory. On March 11, 2015, Directive (EU) 2015/412 was officially released (for more information see the 12/6/2016 Report - EU Biotechnology). Regarding this "opt-out" of cultivation option, the Dutch Government will determine per GE crop if they will allow cultivation. This judgment will be made by the Ministry of Economic Affairs on the basis of a scientific assessment framework and in consultation with a commission. The Dutch Rathenau Institute organized a stakeholder's dialogue about the set-up of this assessment framework. In a letter (Dutch language) to the Dutch Parliament dated October 14, 2016, the Dutch State Secretary of Agriculture, Martijn van Dam, presented the results of the dialogue and the resultant assessment framework. The framework assesses GE crop varieties on the following elements: (1) freedom of choice for farmers and consumers, (2) compliance with the Dutch coexistence regulations, (3) compliance with pesticide regulations, (4) economic implications for conventional and organic farmers, (5) acceptance by society, and (6) the prospects and advantages the GE crop offers for improving sustainability, food security and consumer benefits. The Ministry would install a commission with experts to conduct an assessment based on objective scientific facts. On the date of publication of this report, a commission was not yet installed.

c) Exports

The Netherlands does not produce or export domestically produced GE crops or products. However, the Netherlands transships imported GE crops and products to other EU Member States and re-exports GE materials to non-EU countries. The transshipped and exported GE materials are documented and

labeled as required by the EU legislation.

d) Imports

The Netherlands imports large quantities of GE crops and derived products. Given the absence of cultivation, the Dutch do not import GE seed. Imports of GE processed consumer products are small as these products must be labeled. Imported GE crops and derived products are mainly soybeans. The Netherlands is the second largest soybean and soybean meal importer in the world. Soybeans and derivatives are imported from the United States and Brazil and soybean meal from Brazil and Argentina (see table below). The share of these shipments which contain GE material is not registered, but estimated to be above 85 percent.

Due to the tight supply of non-GE and organic soybeans, the Dutch Government signed the European Soya Declaration, which supports European soybean production. Soy traders and feed compounders report a price premium of euro 50-100 per MT for non-GE feed grade and euro 100-150 per MT for non-GE food grade soybeans. (For more information see the 7/24/2017 Report - The Netherlands Signs the European Soya Declaration.)

Imports of Soybeans and Meal, the Netherlands (1,000 MT)						
	2012	2013	2014	2015	2016	
Soybeans	2,823	3,343	3,070	4,378	4,642	
-United States	810	1,066	1,124	1,792	2,130	
-Brazil	1,034	1,271	1,420	1,273	1,576	
Soybean meal	5,033	4,994	4,670	4,009	3,098	
-Brazil	3,288	3,437	2,720	2,558	2,021	
-Argentina	1,426	1,209	1,383	1,046	841	

Dutch position towards legislation for national "opt-out" of use:

The directive for opting out of cultivation was followed by a European Commission proposal for opting out of use. On April 22, 2015, the European Commission published a proposal that would allow EU Member States to restrict or ban the use of GE feed or food on their territory. On June 5, 2015, the Dutch Government informed the Dutch Parliament by a letter (in Dutch) of their position. In the letter, the Cabinet strongly criticizes the proposal on two basic grounds. The main arguments are that the proposal is not science based and that the implementation will have negative effects on the economy. The Dutch Government made the distinction between opting out of cultivation and opting out of use based on the fact that growing crops is a local activity while use of inputs has repercussions for trade which is in many cases an international activity. Given the importance of international trade for the Dutch economy, this Dutch Government's position on this subject is not likely to change.

e) Food Aid

The Netherlands is not a food aid recipient country, nor does it provide food aid. Financial aid is given either directly to the recipients, through EU institutions or through non-governmental organizations (NGOs).

f) Trade Barriers

The *slow approval process* of new GE events and unpractical EU regulations for the allowed *Low Level Presence* (LLP) of GE materials in shipments by the European Union has significantly affected U.S. exports to the Netherlands in particular corn, corn gluten feed (CGF) and Distillers' Dried Grains (DDG). *Mandatory labeling* of the presence of GE ingredients in food caused processors to avoid crops of which GE varieties are planted. This affected mainly the sourcing of vegetable oils, by which soybean oil was eliminated from the food ingredient list.

PART B: POLICY

a) Regulatory Framework

As an EU member state, the Netherlands has implemented harmonized legislation regarding agricultural biotechnology. The following three Ministries are responsible for implementation and enforcement of the regulatory framework for agricultural biotechnology:

<u>The Ministry of Health, Welfare and Sport (VWS)</u> - The coordinating ministry in the policy-making process in the field of medical and agricultural biotechnology. The VWS is also the central competent authority with responsibility for GE legislation in the area of food.

<u>The Ministry of Infrastructure and the Environment (MIE)</u> - Responsible for implementation and enforcement of legislation regarding living GE plants and animals, such as used in laboratory research and feed trials. The responsible ministerial body is the Bureau for Genetically Modified Organisms (BGGO).

<u>The Ministry of Economic Affairs (MEA)</u> - Responsible for GE legislation in the feed and seed area. Together with VWS, MEA plays an important role in the implementation of the EU Traceability and Labeling legislation. MEA has two bodies responsible for enforcement of the legislation regarding biotech feed and food;

-The Netherlands Food and Consumer Product Safety Authority (NVWA) is responsible for documentation and physical control of food and feedstuff imports entering through Dutch ports.
-The Netherlands Inspection Service for Agriculture (NAK) is responsible for inspection of crops and seed imports into the Netherlands.

The Dutch economy's dependency on trade is the main factor which influences the regulatory decisions in the Netherlands. The Dutch economy is not only based on trade related services, but also benefits from the close access to imported commodities which serve as input for the Dutch food processing and intensive livestock sectors. Regarding the regulatory framework for domestic cultivation of GE crops, however, Dutch politicians are more inclined to follow the Dutch society's sentiments. Current national co-existence regulations practically ban the cultivation of GE events.

The Dutch Parliamentary elections in March 2017 did not result in a single majority. As a consequence, four political parties have spent months negotiating a common government coalition, which is expected by mid-October. The coalition consists of the Liberal Party (VVD), Liberal Democratic Party (D66), Christian Democrats (CDA) and Christian Union (CU). The VVD, D66 and CDA are generally supportive of agricultural biotechnology, although D66 is a strong supporter of labeling and has expressed concerns about the Dutch "dependency" on GE soya imports. The CU has ethical concerns

related to the application of innovative breeding technologies, with the exception of cis-genesis, which they support.

b) Approvals

In general, the Dutch Government follows the advice of the European Food Safety Agency (EFSA) in the approval of GE plant varieties. On February 11, 2014, however, the Dutch Government cast its first ever negative vote for a biotech dossier at the EU Council (Pioneer 1507 maize for cultivation). While the Dutch Cabinet opposed this change in position, the decision was the result of a direct instruction from the Parliament.

c) Stacked or Pyramided Event Approvals

The Netherlands implements EU legislation.

d) Field Testing

Experimental planting of GE crops is almost impossible in the Netherlands. Crop trials are effectively prevented by cumbersome regulations imposed by the government and by the threat of protests from environmental groups. Despite this resistance, in 2013, Wageningen University started a trial with a potato variety which is resistant against phytophthora (late blight). The potato is made resistant by transferring genes from another resistant potato (cis-genesis). A license was also granted for an ongoing field trial with apples. The apples are made resistant against apple scab through cis-genesis. Both experiments are still taking place. The market introduction of the potato and apple variety is not expected within the next five years.

e) Innovative Biotechnologies

Dutch Position towards innovative biotechnologies:

The application of innovative biotechnologies is a dossier which has the keen attention and support of the Dutch Government. This support is based on the use of innovative biotechnologies as an important propagation tool for the Dutch plant breeding sector.

In a <u>letter</u> (in Dutch) dated February 22, 2016, to the Dutch Parliament, the Dutch State Secretary of Agriculture, Martijn van Dam, stated that innovative biotechnologies can support Dutch policy objectives such as sustainability, food security and food safety. He reinforced his position in a <u>letter</u> to the Dutch Parliament dated December 1, 2016. Examples provided in the letter are the development of a pest resistant rice and potato varieties.

The current policy position of the government allows for products produced with innovative biotechnologies as long as they are deemed to be as safe as conventional breeding. In order to determine if the technology produces a safe food, the Dutch Government consults the studies of the European Food Safety Agency (EFSA), and the Institute of Food Safety of the Wageningen University (RIKILT), and the National Institute for Public Health and the Environment (RIVM). The government has already decided that plant products produced through cis-genesis are as safe as products produced with conventional breeding. The formal Dutch Government position is that products of cis-genesis

should be exempted from the EU GE-Directive 2001/18/EC.

On September 7, 2017, the Dutch Ministry of Infrastructure and the Environment presented a discussion paper to the permanent representatives of the EU Member States in Brussels on how products derived from innovative biotechnologies or, as commonly called in the EU, new plant breeding techniques (NBTs) could be regulated. The Ministry aims to start a discussion after an almost ten year long impasse. According the Ministry, the lack of clarity of the status of NBTs hampers innovation and has led to legislative discrepancies within the EU. The proposal was introduced before the European Commission's Conference: "Modern Biotechnologies in Agriculture – Paving the way for responsible innovation on September 28, 2017 in Brussels.

The Dutch proposal discusses an amendment of the exemption mechanism for GE plants under Directive 2001/18/EC, Annex IB. One of the most important guidelines of the Dutch proposal is that science-based criteria should be developed which determine if the Directive applies to the product irrespective of which technique has been used. It therefore contains a more product based approach than currently is laid down in the Directive. The proposal holds the view that plants resulting from NBTs are exempted from Directive 2001/18/EC if they are at least equally safe as plants obtained by traditional breeding. The proposal states that "GE plants that are obtained through techniques referred to under Annex IB must, when a similar selection process and quality control framework are applied as is the case during traditional breeding, and provided a successful plant variety registration is accomplished, be considered equally safe for human health and the environment." (For more information see GAIN Report NL7029 (internal) and 9/29/2017 Report - Dutch Proposal to Legislate NBTs.)

f) Coexistence

In 2004, the Dutch agricultural sector and environmental NGOs agreed upon coexistence regulations which were accepted by the Dutch Ministry of Agriculture. The Product Board for Arable Crops was responsible for the implementation of the regulations. With the abolishment of this organization, the national coexistence regulation has been transposed to a government regulation as of January 1, 2015. The regulations include a liability fund to which all farmers, except organic, need to contribute if or when GE crops are planted in the Netherlands. Despite the coexistence regulations, GE crops can be banned on a municipal and regional level. Currently, the Dutch city of Nijmegen and the Province of Friesland banned GE crops from being cultivated within their borders.

g) Labeling

The Netherlands implements EU legislation that products that contain 0.9 percent or more GE content, per ingredient, must be labeled

h) Monitoring and Testing

The Netherlands Food and Consumer Product Safety Authority (NVWA) is actively testing feed and food imports for the presence of GE materials. The Dutch regulations for labeling, sampling, and testing are based on EU legislation.

i) Low Level Presence (LLP) Policy

The Dutch regulation for LLP is based on EU legislation. It follows the "technical solution" guidance that defines zero as an allowance of 0.1 percent, as outlined in EU Regulation 619/2011. This regulation lays down the methods of sampling and analysis of official control of feed regarding the presence of GE materials for which an authorization procedure is pending or the authorization of which has expired. Besides an LLP regulation for unapproved GE varieties in feed, the Dutch Government supports a technical solution for the zero tolerance for unapproved GE events in food.

j) Additional Regulatory Requirements

The Netherlands implements EU legislation.

k) Intellectual Property Rights (IPR)

The Netherlands implements EU legislation, and does not have their own IPR laws that would protect patents on plant biotechnology.

The main concern of the Dutch Parliament related to genetic engineering is the dominant position of the seed companies in the food sector. The Dutch Government's response to this concern has been that if needed, EU and international patent laws should be changed to assure biological material is freely available for the development of new varieties.

During the first half of 2016, the Netherlands chaired the EU Council. The imbalance between patent rights and farmers' rights was one of their priorities. The Dutch Government organized a symposium on May 18 and 19 called, "Finding the Balance", the European Commissioner for the internal market Elzbieta Bienkowska provided specific interpretation of the current EU legislation, in particular with relation to the accessibility of genetic material and patentability of plant varieties. On November 3, 2016, the European Commission published a Commission Notice on certain articles of Directive 98/44/EC stating that products derived from essentially biological processes (conventional breeding) cannot be patented.

1) Cartagena Protocol Ratification

The Netherlands is a signatory of the Protocol and it entered into force in the country September 2003. In the Netherlands, the Ministry of Infrastructure and the Environment (MIE) is responsible for the implementation of the Cartagena Protocol on Biosafety (CPB). The Netherlands has enforced the Protocol through the implementation of EU directives in the Genetically Modified Organisms Act.

m) International Treaties / Forums

The Netherlands is member of the International Plant Protection Convention and the Codex Alimentarius. Through the National Institute for Public Health and the Environment (RIVM), the Netherlands has contributed to the work undertaken by the OECD on risk assessment and risk management. In general, the Dutch Government has the opinion that the regulations related to the trade and processing of GE crops must be workable for the private industry and enforceable by the

authorities.

n) Related Issues

On April 4, 2014, the Dutch Cabinet informed the Dutch Parliament of its position towards the application of biotechnology in plant and animal breeding (see <u>4/11/2014 Report - Dutch Government Reveals Its Biotech Policy</u> for more information). The Cabinet stated that the application of biotechnology in agriculture creates added value and can benefit to the global food security and sustainability of food production, but only if the risks are negligible. This position is not likely to change with the new coalition government.

PART C: MARKETING

a) Public / Private Opinions

Because GE crop plantings are absent and GE labeled food products are scarce, Dutch citizens as well as consumers are not conscious of the developments in agricultural biotechnology. If GE crops were planted and GE labeled food was on the market, environmental NGOs would likely protest and instigate consumer unrest.

The Dutch Farmers Organization (LTO) is pragmatic and in favor of planting GE crops, but is cautious due to the resistance of retailers and consumers, in particular consumers in key export markets such as Germany.

The Dutch intensive livestock sector benefits from the close access to feed materials produced in third countries, mainly soybean meal, which is mostly GE. There is no resistance by consumers as this meat produced with GE feed does not have to be labeled. Traders estimate the European non-GE soya market at about fifteen percent of the total feed grade market, with a lower percentage for the Dutch market. The share of organic feed grade soya is estimated to be lower than five percent. (For more information see the 7/24/2017 Report - The Netherlands Signs the European Soya Declaration.)

The Dutch plant breeding and propagation sector doesn't support the Dutch Government's proposal to amend Annex IB of 2001/18/EC. Their main argument is that this route is expected to be a lengthy procedure causing uncertainty for the sector about which innovative biotechnologies they can apply. The planting seed sector has the opinion that the current EU legislation offers sufficient leeway to exempt innovative biotechnologies from the current EU restrictive legislation for GE crops. This sector also supports the position that biological material protected by patent rights should be freely available for the development of new varieties.

b) Market Acceptance / Studies

On June 14, 2016, the Dutch advisory body Commission Genetic Modification (COGEM) published the report: <u>Trendanalyse Biotechnologie 2016</u>, <u>Regelgeving Ontregeld</u> (Trend Analysis Biotechnology 2016, Regulations Deregulate – in Dutch). The State Secretary of Health, Sharon Dijksma, presented the report to the Dutch Parliament. In a <u>letter</u> (in Dutch) to the Parliament dated on December 12, 2016, she stated that the report concludes that biotech innovations are outpacing the regulatory process, and as

a result the risk of the applications cannot be safeguarded. Dijksma concluded that the following policies must be future proof by anticipating the fast pace of developments in the plant breeding sector. In other words, the policies need to keep up with the technological developments.

On November 4, 2015, the COGEM published the report: Opvattingen over genetische modificatie en genetisch gemodificeerde organismen (Opinions about genetic modification and genetic modified organisms – in Dutch). The report concluded that most citizens are not fundamentally for or against GE technologies. The absence of direct and detectable advantages of GE technologies is the main reason for the lack of support by the Dutch citizens. Another important factor is the lack of trust of the citizens in the government and the private sector compared to NGOs and universities.

On March 5, 2015, the COGEM published a report about the status of the biotechnology sector in the Netherlands: Economische analyse van de Nederlandse biotechnologiesector (Economic analysis of the Dutch biotechnology sector – in Dutch). One of the main conclusions of the report is that biotechnology is increasingly integrated in other sectors, but the economic activity of the agricultural biotech sector itself is stagnating. The report also stated that the difference between genetic engineering and other biotech practices is disappearing, which questions the practicality of the current legislation on GE crops.

CHAPTER II: ANIMAL BIOTECHNOLOGY

PART D: PRODUCTION AND TRADE

a) Product Development

In the Netherlands, there are no genetically engineered (GE) animals under development that will be on the market in the coming five years. In the policy paper of April 4, 2014, the Dutch Cabinet stated that the application of biotechnology in animal breeding for recreation and sport is prohibited, but permitted for biomedical purposes (see 4/11/2014 Report - Dutch Government Reveals Its Biotech Policy for more information). For the application in agriculture, a clear position has not yet been taken, but the paper emphasized that animal welfare is an important consideration for the judgment. It is not certain if this topic will be on the political agenda of the new coalition government, which is anticipated to be installed in mid-October.

b) Commercial Production

In the Netherlands, there are no GE or cloned animals used for commercial use. GE animals are authorized for use as laboratory animal for medical research at universities and academic hospitals. Annually, 15 to 20 licenses are granted. The largest group of GE animals is mice. The Dutch livestock sector does not keep GE animals nor do agricultural research institutes in the Netherlands keep them for research purposes.

c) Exports

As domestic production of GE and cloned animals does not exist, the Netherlands does not export

domestically produced GE or cloned animals or their reproductive materials. However, the Dutch livestock and dairy sector most likely imports and further trades semen and embryos from cloned animals. The export documentation does not declare the reproductive material is sourced from cloned animals.

d) Imports

The Netherlands has likely imported semen and embryos from cloned animals. The specific quantity of these imports is not available.

e) Trade Barriers

Currently there are no trade barriers related to animal biotechnology. Future legislation could, however, introduce barriers. Compulsory labeling of products derived from the offspring of clones will probably halt the import of these products. Labeling of clones or genetic material of clones will have less impact on sales as these labels are not seen by the end consumer.

PART E: POLICY

a) Regulatory Framework

Currently, the Dutch Government has regulations in place for the genetic engineering of animals, but not for the practice of cloning animals. Organizations which want to use GE animals for medical research need to request a license from the Dutch Ministry of Economic Affairs (MEA). The Animal Experiments Commission (DEC) assesses the incoming license requests for biomedical research experiments. The Dutch Committee on Animal Biotechnology (CBD) assesses the other incoming license requests. These licenses are granted only if the genetic engineering does not have any unacceptable consequences for the animal's health and welfare. Nor should there be any ethical objections against the proposed application. The rules for a biotechnology application request are laid down in the Animal Biotechnology Decree. The Netherlands Food and Consumer Product Safety Authority (NVWA) enforces these regulations.

In addition to a license granted by the Minister of Agriculture, institutes or corporations wanting to make, reproduce, keep or transport GE animals also need a license from the Minister of Infrastructure and the Environment, who assesses the project's potential adverse effects on humans and the environment. This requirement is based on the Decree on Genetically Modified Organisms.

In a letter (in Dutch) to the Parliament, dated November 30 2015, the Minister of Agriculture, Martijn van Dam, stated that the Dutch Government supports the temporary EU wide ban on cloning of farm animals. The Cabinet does not oppose the European Commission proposal to ban food from clones, but only if the regulation is practical and in line with international obligations. The Dutch Government has not made a decision about whether the prospective EU ban on the products from clones should also include products of the prodigy of clones. The position of the new Dutch four party coalition government is not known yet, and it is unclear if the topic will be on the political agenda.

On June 14, 2016, the COGEM published a report: <u>Trendanalyse Biotechnologie 2016</u>, <u>Regelgeving Ontregeld</u> (Trend Analysis Biotechnology 2016, Regulations Deregulate – in Dutch). In a <u>letter</u> (in

Dutch), the State Secretary of Health, Sharon Dijksma presented the report to the Parliament and specifically referred to the risks of GE organisms with *gene drives*, as described in Science, Augustus 28 2015, Vol. 349, no. 6251, pp. 927-929. With *gene drives*, the GE organisms will solely produce GE offspring. The State Secretary concluded in the letter that the government will include the risks of *gene drives* in the assessment of the incoming license requests, and in addition will call for international measures.

b) Innovative Biotechnologies

The Netherlands has not yet decided how to regulate innovative biotechnologies in animals. The Netherlands implements EU legislation.

c) Labeling and Traceability

The Netherlands implements current EU legislation. As part of or in addition to EU legislation, the Dutch Government wants to implement a traceability scheme for reproductive material.

d) Intellectual Property Rights

The Netherlands implements EU legislation, and does not have their own IPR laws that would protect patents on animal biotechnology.

e) International Treaties / Fora

The Netherlands is a member of Codex Alimentarius (Codex), and the World Organization for Animal Health (OIE). However, the Netherlands does not take an active position regarding animal biotechnology in these organizations.

f) Related Issues

No other related issues to report.

PART F: MARKETING

Animal Biotechnology Marketing

a) Public/Private Opinions

Government and livestock sector representatives are in general educated on the subject, but are not supportive of cloning and GE animals. Their policy is based on the public's aversion to the technique.

b) Market Acceptance / Studies

Dutch citizens and consumers do not support the use of cloning and/or genetic engineering technologies by the livestock sector. These practices are also not accepted by the majority of the Dutch livestock and dairy farmers, breeders or even the leading Dutch researchers.

Within Dutch society and the government, there is no consensus on what is ethically acceptable if such technologies are applied in the medical sector. This is why the Committee on Animal Biotechnology assesses all incoming license requests. Assessments are made on a case-by-case basis. These will eventually have to result in clear guidelines on what is or is not ethically acceptable in research involving cloning or genetic engineering of animals. So far, authorization of GE animals is limited to the use for medical research by universities and academic hospitals.

The COGEM investigated if the legislative framework and procedures in the Netherlands and Europe were equipped to deal with the market introduction of GE animals. In January 2012, a report was published: Genetically Modified Animals: A Wanted and Unwanted Reality.

In 2013, the Ministry of Economic Affairs held a public consultation on the use of cloning for agricultural practices. The study was conducted through online discussions between randomly selected citizens. The main conclusion of the consultation was that the public wants to be informed if the meat is produced from the progeny of clones. The study will be used as input for formulating the position of the Dutch Government. The final report of the study is not public.